## CLAIMS

1. Method for encoding an image with which a hierarchical mesh is associated, implementing a wavelet-encoding of said mesh, characterized in that said encoding method implements at least two types of wavelets applied selectively to distinct zones of said image.

2. Encoding method according to claim 1 characterized in that it comprises the following steps:

- a step for partitioning said image into at least two zones of distinct natures, the nature of each zone being a function of at least one characteristic parameter of said mesh in said zone;
- for each of said zones, a step for the assigning, at least as a function of said nature, of a type of wavelet enabling the optimizing of said encoding of said mesh of said zone.

3. Encoding method according to claim 2 characterized in that said characteristic parameter of said mesh takes account of the density of said mesh in said zone.

4. Encoding method according to either of the claims 2 and 3 characterized in that said nature of said zone belongs to the group comprising:

- at least one type of texture;
- at least one type of contour;
- at least one type of singularity;
- at least one type of color;
- at least one type of shape.

5. Encoding method according to any one of the claims 1 to 4 characterized in that said wavelet types belong to the group comprising:

- the Loop wavelets;
- the Butterfly wavelets;
- the Catmull-Clark wavelets:
- the affine wavelets.

6. Encoding method according to any one of the claims 1 to 5 characterized in that it comprises, for each of said zones, a step for the application to said mesh, of coefficients of said type of wavelets assigned to said zone, taking account of a scalar value associated with said mesh at an updating point of said zone and said scalar value associated with said mesh at certain points at least, neighboring said updating point.

7. Encoding method according to claim 6, characterized in that said scalar value represents a parameter of said mesh belonging to the group comprising:

- the luminance of said mesh;
- at least one chrominance component of said mesh.

8. Encoding method according to any one of the claims 6 and 7, characterized in that it furthermore comprises a step for encoding said wavelet coefficients implementing a technique belonging to the group comprising:

- a zero-tree type technique;
- an EBCOT type technique.

9. Encoding method according to any one of the claims 6 to 8 characterized in that, with said image belonging to a sequence of successive images, said method furthermore comprises a step to compare said wavelet coefficients of said image with the wavelet coefficients of at least one image preceding or following said image in said sequence, so as to avoid the implementation of said encoding step for wavelet coefficients of said image identical to those of said preceding or following image.

10. Encoding method according to any one of the claims 1 to 9 characterized in that it enables the encoding of a sequence of successive images,

and in that said image is an error image, obtained by comparison of an original image of said sequence and an image built by motion estimation/compensation, said image comprising at least one error region to be encoded and, as the case may be, at least one substantially empty region.

11. Encoding method according to claim 10 characterized in that said partitioning step comprises a step for the detection of said error regions of said

image by thresholding, making it possible to determine at least one region of said image having an error greater than a predetermined threshold.

12. Encoding method according to claim 11 characterized in that said partitioning step also comprises a step for the grouping together of at least certain of said detected error regions in parallelepiped-shaped blocks.

13. Encoding method according to claim 12 characterized in that said partitioning step comprises a step for creating said zones of said image in the form of sets of blocks of a same nature.

14. Encoding method according to claim 11 characterized in that said partitioning step comprises a step for the creation of said zones of said image from said detected error regions, implementing a quadtree type technique.

15. Method for decoding an image with which a wavelet-encoded hierarchical mesh is associated,

characterized in that it implements a selective decoding of distinct zones of said image as a function of information on the type of wavelets assigned to the encoding of the mesh of each of said zones.

16. Device for decoding an image with which a wavelet-encoded hierarchical mesh is associated, implementing means for the wavelet-encoding of said mesh,

characterized in that it comprises means for the selective application of at least two types of wavelets to distinct zones of said image.

17. Device for decoding an image with which a wavelet-encoded hierarchical mesh is associated, characterized in that it comprises means for the selective decoding of distinct zones of said image as a function of information on a type of wavelet assigned to the encoding of the mesh of each of said zones.

18. Signal representing an image with which there is associated a wavelet-encoded hierarchical mesh,

characterized in that at least two types of wavelets having been applied selectively to distinct zones of said image during the encoding, said signal conveys information on said type of wavelets assigned to the encoding of the mesh of each of said zones.

19. Signal according to claim 18, characterized in that it is structured in the form of packets each associated with one of said zones of said image, each of said packets comprising the following fields:

- a field indicating the start of a packet;
- a field conveying an identifier of said packet;
- an information header field;
- a field comprising said pieces of information on said type of wavelets assigned to said zone;
- a field comprising wavelet coefficients applied to said mesh of said zone;
- a field relating to the form of said mesh of said image;
- a field indicating an end of a packet.

20. Signal according to claim 19 characterized in that said information header field comprises:

- a sub-field on the number of wavelet coefficients of said zones;
- a sub-field indicating said zone of said image, as a function of said form of said mesh;
- a sub-field on the number of bitmaps implemented for said wavelet coefficients.

21. Application of the encoding method according to any of the claims 1 to 14 and of the decoding method according to claim 15 to at least one of the fields belonging to the group comprising:

- video streaming;
- video storage;
- video conferencing;
- video on demand;
- video mail.